

Preliminary Data Gap Analysis
Pebble Project Environmental Impact Statement

Resource: Wetlands			
Project Component	Analysis Component	Description	Data Recommendations
Natural Gas Pipeline Corridor	Affected Environment, Environmental Consequences	Pipeline corridor on Kenai peninsula does not appear to be included in baseline reports.	Baseline reports should be updated using the pipeline corridor footprint utilized in the December 2017 USACE permit application. Geospatial data needed for analysis.
All	Affected Environment, Environmental Consequences	Baseline reports lack information on wetland functions or values. Reports indicate that Functional Assessment plots were collected, but no methods or results are provided. The Pebble "Consolidated Study Program" indicates that functional assessment values were to be entered into a web-based relational data base.	If a functional assessment of project wetlands is developed, based on the data collected for the baseline reports, information on function would be included in the EIS. An assessment of functional capacity is the preferred method to characterize affected environment, assess project impacts, and determine mitigation sequencing and compensatory mitigation requirements. Wetlands digital data should be attributed with functional capacity indices.
All	Affected Environment, Environmental Consequences	Baseline reports provide only summary tables of generic wetland classes (Cowardin and HGM). More site-specific descriptions would help to characterize resources and evaluate effects.	The Cowardin/NWI classes should be linked to the Alaska Vegetation classes (Viereck et al.) that are used in the Vegetation baseline reports, perhaps through a crosswalk. Representative photos should be provided of major wetland types in the project area.
All	Environmental Consequences	Detailed information on how wetland impacts are avoided, minimized,	A more robust statement of mitigation sequencing is necessary than what is provided in the USACE PLP DA permit application (p. 31). This will be necessary for the

		restored, monitored or compensated is lacking.	Mitigation section of the EIS, and is built in to the effects analysis for wetlands.
All	Environmental Consequences	The wetland impact tables in the USACE permit application do not indicate whether the impacts are permanent or temporary, direct or indirect. It is unclear whether indirect wetland impacts have been adequately assessed.	Indirect wetland impacts associated with water drawdown, fugitive dust, etc. is an important part of the effects analysis. The wetland impact tables and descriptions need to explicitly address indirect impacts, as well as temporary impacts and wetland conversions. For temporary impacts, provide concepts as to how areas will be restored.

Data Reviewed

1. Pebble Project Environmental Baseline Document 2004-2008, September, 2011: Chapter 14 Wetlands and Waterbodies (Bristol Bay Drainages); Chapter 39 Wetlands (Cook Inlet Drainages); Chapter 1 Introduction; Appendix E Consolidated Study Program; Appendix F Field Sampling Plans.
2. Pebble Project Department of the Army Application for Permit, December 2017, including attachments.
3. EPA, January 2014, An Assessment of Potential Mining Impacts on Salmon Ecosystems of Bristol Bay, Alaska (relevant sections).
4. EPA, July 2014, Proposed Determination of the U.S. Environmental Protection Agency Region 10 Pursuant to Section 404 (C) of the Clean Water Act, Pebble Deposit Area, Southwest Alaska (relevant sections).